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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,754	10/20/2003	Masaaki Kusumi	KOIKE-01100	6013

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EXAMINER
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BERNATZ, KEVIN M

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,754

Applicant(s)

KUSUMI ET AL.

Examiner

Kevin M. Bernatz

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Amendments to claims 4 and 10, filed on November 16, 2005, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1 – 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "hard" in claims 1 and 7 are indefinite for the reasons of record as set forth in Paragraph No. 2 of the Office Action mailed on September 1, 2005.

### ***Claim Rejections - 35 USC § 103***

5. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokai et al. (U.S. Patent No. 4,755,426) in view of Gonsel et al. (U.S. Patent App. No. 2002/0114980 A1) for the reasons of record as set forth in Paragraph No. 4 of the Office Action mailed on September 1, 2005.

To clarify the above rejection, the Examiner notes that Gonsel et al. discloses a magnetic sensor (*Paragraph 0017*) including a substrate (*Figure 2, element 29 – magnetic head body*) having a magnetism-sensitive element (*necessarily present in order for it to be a magnetic head*) formed thereon and which detects a magnetic signal from a medium having magnetic signals recorded thereon (*again, necessarily met in order for element 29 to be a magnetic head*), the magnetic sensor having a protective layer thereon (*Figure 2, element 27 and Paragraph 0110*), wherein said magnetic sensor has said protective layer disposed opposite to the medium (*Figure 2*) and relatively moves along said medium (*Figures 1 – 2; Paragraphs 0010, 0017 and 0108 – 0110; and claim 57*).

6. Claims 7 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokai et al. in view of Gonsel et al. as applied above, and further in view of applicants' admissions for the reasons of record as set forth in Paragraph No. 5 of the Office Action mailed on September 1, 2005.

### ***Response to Arguments***

#### **7. The rejection of claims 1 - 12 under 35 U.S.C § 112 – 2<sup>nd</sup> Paragraph**

Applicant(s) argue(s) that “hard membrane” is sufficiently described in the specification based on a few examples of suitable thickness values and materials (*page 4 of response*). The examiner respectfully disagrees.

The Examiner maintains that the magnitude associated with “hard” is not defined, and that one of ordinary skill in the art may have a different appreciation of what is “hard” and what is not “hard”. Since the specification is not clear on this distinction, one of ordinary skill in the art would not be readily appraised of the full scope of the claimed subject matter and would be unable to ascertain whether they were infringing by utilizing a material that they felt was not “hard”, but perhaps applicants would consider as “hard”. The Examiner notes that this rejection can be overcome by removing the term “hard” from the claim and/or inserted materials used to form the membrane layer.

**8. The rejection of claims 1- 12 under 35 U.S.C § 103(a) – Kokai et al. in view of various references**

Applicant(s) argue(s) that “the ferromagnetic metal thin layer of Kokai teaches the Fe-Ni film 11 of the present invention, rather than the nitride film formed as an inorganic film 12 of the present invention” (*pages 5 and 7 of response*). The examiner respectfully disagrees.

The examiner notes that the specification is not the measure of the invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding prior art. *In re Sporck*, 55 CCPA 743, 386 F.2d 924, 155 USPQ 687 (1968). The present claims do not recite what materials are restricted to the various layers, only that it is an inorganic material. Furthermore, applicants appear to be mischaracterizing Kokai et al., which explicitly teaches that the formation of an oxide film (i.e. an *inorganic film*) below the organic film results in improved durability (*col. 5, lines 59 – 64*).

Applicants further argue that Kokai et al. and Gonsel et al. teach away from each other and are, therefore, not properly combinable (*pages 5 – 7 of response*).

Specifically, applicants point to the difference in thickness of the protective layer/lubricant layer required in the Kokai et al. invention versus the Gonsel et al. invention. The Examiner respectfully disagrees.

First, the Examiner notes that the suggestion to combine need not be express and "may come from the prior art, as filtered through the knowledge of one skilled in the art." *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed. Cir. 1997). Kokai et al. was invented 1986, thirteen years before the Gonsel et al. invention (1999). During that time, tremendous changes in the magnetic recording field took place, including a huge increase in the areal recording density demands and capabilities of recording media. In order to achieve these high area recording densities, the head-disk spacing decreased to angstrom-level spacing (*see Gonsel et al., Paragraph 0010*). Because of the need to reduce the spacing gap between the recording layer of the magnetic disk and the active element (MR element) of a magnetic head, the thickness ranges of the protective and lubricant layers must be decreased (*again, see Paragraph 0010 of Gonsel et al.*). Hence, the Examiner maintains that the two references do *not* teach away from each other because of the difference in thickness values of the "protective"/"lubricant" layer, but merely reflect the common knowledge gained between 1986 and 1999 regarding the need to reduce spacing loss in order to achieve high recording densities. Finally, the Examiner notes that nothing would prevent one of ordinary skill in the art from using larger thickness values if one

did not need to achieve high recording densities (i.e. there is a known trade-off between increased thickness protective layers granting higher mechanical protection, but also increasing the head-spacing-loss and, hence, leading to reduced recording density).

Applicants' further argue that neither Gonsel et al. nor Kokai et al. teach an inorganic film formed on the magnetism-sensitive element (*pages 6 and 7 of response*). The Examiner respectfully disagrees.

The Examiner notes that applicants appear to be mischaracterizing the term "formed on" in the present claims. "Formed on" in combination with the transitional phrase "comprising" is open to additional layers being present. Should applicants desire to claim that the inorganic layer is directly adjacent the magnetism-sensitive element, applicants are suggested to reword the claims to recite an "inorganic film directly formed on the magnetism-sensitive element".

Finally, applicants "disagree with the contention that applicants' admit that magnetic sensors are known to be used in position sensors meeting applicants' claimed limitations as an obvious use for a magnetic sensor" (*page 8 of response*) and that the admission in the specification should not be taken "as an admission that the position detector of the present invention is obvious". The Examiner respectfully disagrees.

In order to clarify the rejection, the Examiner notes that applicants' admissions were only relied upon to teach that position detectors are known to use MR sensors. The MR sensors necessarily possess a magnetism-sensitive element and a substrate, and the inorganic film, organic film and hard membrane are taught per the Kokai et al. and Gonsel et al. references. The limitations "a magnetic scale with position signals

longitudinally provided thereon" and "said magnetic sensor ...relatively moves along the magnetic scale to detect position signals provided on the magnetic scale" are nominal apparatus limitations which are deemed necessarily present in a position detector comprising a MR sensor in order for it to be a position detector. The Examiner agrees with applicants that the admissions is not directed to the inorganic film, the organic film or the hard membrane film part of the claimed position detector.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

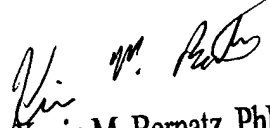
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
February 7, 2006

  
Kevin M. Bernatz, PhD  
Primary Examiner